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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,192	04/17/2006	Akihiro Teramachi	062412	8606
38834 7590 05/04/2007 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			EXAMINER JOYCE, WILLIAM C	
			ART UNIT 3682	PAPER NUMBER
			MAIL DATE 05/04/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/576,192

Applicant(s)

TERAMACHI ET AL.

Examiner

William C. Joyce

Art Unit

3682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

### **DETAILED ACTION**

This is the First Office Action in response to the above identified patent application filed on April 17, 2006.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 5/1 are rejected under 35 U.S.C. 102(b) as being anticipated by Murata (US Pub. 2001/0038724).

Murata discloses a roller screw comprising: a screw shaft (5) having an outer peripheral surface in which a spiral roller rolling groove is formed; a nut member (6) having an inner peripheral surface in which a spiral loaded roller rolling groove is formed so as to oppose to the roller rolling groove of the screw shaft; a return member (Fig. 2) connecting one and another ends of a loaded roller rolling groove of the nut member and configured to circulate a roller rolling the loaded roller rolling passage between the roller rolling groove of the screw shaft and the loaded roller rolling groove of the nut member; and a plurality of rollers (7) disposed in the loaded roller rolling passage and the return member, wherein a spacer is disposed between a pair of adjacent rollers so

as to prevent the paired rollers from contacting each other (see alternate embodiments of the spacers).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (USP 6,481,305) in view of Shirai (JP 2002-039175).

Nishimura et al. discloses a roller screw comprising: a screw shaft (12) having an outer peripheral surface in which a spiral roller rolling groove is formed; a nut member (14) having an inner peripheral surface in which a spiral loaded roller rolling groove is formed so as to oppose to the roller rolling groove of the screw shaft; a return member (20,21) connecting one and another ends of a loaded roller rolling groove of the nut member and configured to circulate a roller rolling the loaded roller rolling passage between the roller rolling groove of the screw shaft and the loaded roller rolling groove of the nut member.

Nishimura et al. discloses (column 7, lines 2-5) a retainer may be interposed between the rollers to reduce frictional forces. Shirai discloses a retainer member is Figures 11 and 13 that is disposed between rollers for reducing friction between the components. It would have been obvious to one of ordinary skill in the art at the time

the invention was made to modify the device of Nishimura et al. with retainers disposed between the rollers, as taught by Shirai, motivation being to reduce friction between the relatively moving components.

6. Claim 5/3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (USP 6,481,305) and Shirai (JP 2002-039175) as applied to claim 3 above, and further in view of Murata (US Pub. 2001/0038724).

In Figure 2, Murata illustrates the return member having the claimed structural form, including the end portions disposed in a tangential direction corresponding to the lead angle of the threaded portion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the screw device of Nishimura et al. with the claimed return member, as taught by Murata, motivation being to provide a smoother operating device.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note the rollers of Strassberg ('230) and Greby ('791).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
William C. Joyce